



World Ecology Report

Critical Issues in Health and the Environment

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**SPECIAL
ISSUE**

SPECIAL FOCUS: *Environment and Children's Health*

The term "health" has grown to encompass a great number of factors and their complex inter-relationships. "Health" no longer can be thought of as simply the absence of disease; rather, it contemplates a standard of mental and physical well-being. Because different factors have greater and lesser impacts on our health at different stages of our development, identifying and assessing those factors, their inter-relationships, and their importance is no easy feat. By focusing on environmental factors, WIT has sought over the past decade to illuminate the influences on human health of a degrading global environmental and to highlight those initiatives which redress environmental health problems.

This year, World Information Transfer's sixth annual conference, Health and Environment: Global Partners for Global Solutions, addressed the critical connection between environmental degradation and the health of children. As children, humans require more air, water, and food per body weight than we do as adults. Children have higher metabolic rates and are developing at a much faster rate. For these reasons, children feel the force of environmental degradation much more acutely than do adults. They have not yet developed sufficient tolerances, immunities, or resilience to common pathogens and pollutants and are therefore more vulnerable to disease. Even relatively slight adversity, if it is encountered at a particularly sensitive point in development, can retard growth and



Speakers at the 6th Conference on Health & Environment at the United Nations April 18, 1997
Photo by: Dora Rak

have impacts that reach far into a child's future.

For the benefit of our readers who were unable to attend, this Special Focus features the abstracts of the papers presented at our sixth international conference, subtitled, Health And Environment: Its Effect On Children's Health, which took place at the United Nations Headquarters in New York, April 18, co-sponsored by the Government of Chile. Experts from a variety of medical and environmental disciplines shared ideas, concerns, and the latest information regarding the impacts of environmental

degradation on children's health. The conference was opened by H.E. Ambassador Juan Larrain who emphasized the topic's importance to the Government of Chile.

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THE VULNERABILITY OF CHILDREN TO TOXINS IN THE ENVIRONMENT

Philip J. Landrigan, M.D., M.Sc.
Professor and Chair, Department of Community Medicine, Professor of Pediatrics, Mount Sinai Medical Center, New York City

Children today live in a world vastly different from that of a generation or two ago. (1) Most children in America in 1996 are better fed and better educated than children of the generations of the past. Thanks to vaccines, antibiotics, and improved nutrition, many once lethal pediatric diseases have been virtually eradicated. The life span of an infant born today is substantially longer than



that of children born in the first half of this century.

At the same time, our children face hazards in the environment that were neither known nor imagined decades ago. They are exposed to old hazards such as lead and asbestos. But also they are exposed to more than 70,000 newly developed synthetic chemicals that did not exist before 1950. The potential dangers of most of these materials have never been tested. And while children's exposures to some health hazards in the environment have "receded"—thanks to research, new regulations and public vigilance—children today are in contact on a more constant basis than ever before with synthetic chemicals in their food, in the air, in drinking water, and in their homes.

Toxic environmental exposures, coupled with the control of many traditional pediatric illnesses, have changed the face of childhood disease. Chronic illnesses in children, some thought to be caused entirely or in part by environmental exposures, have come to replace the classic infectious diseases as major causes of disease and death. These illnesses have been termed the "new pediatric morbidity." (2) The central issue in environmental medicine today is to define these diseases, identify their causes and control them.

Children's Vulnerability of toxins in the Environment

Children have greater exposures to environmental toxins than adults. Pound for pound, children drink more water, eat more food, and breathe more air than adults. (3) For example, children in the first six months of life drink seven times as much water per pound as does the average adult. Children's exposures to toxins in the environment are further magnified by their hand to mouth behavior, which increases their ingestion of toxins in dust or soil, and by their play close to the ground, which increases their exposure to toxins in dust, soil, and carpets.

Children's metabolic pathways, especially in the first months after birth, are immature compared with those of adults. They are less able than adults to metabolize, detoxify and excrete most harmful compounds.

Children are undergoing rapid growth and development, and their delicate developmental processes are easily disrupted. Any injury that results from toxic exposure to developing organ systems, particularly if it involves the nervous, reproductive or immune systems, may be irreversible and can lead to life-long dysfunction.

Because children have more future years of life ahead of them than most adults, they have more time to develop any chronic diseases that may be triggered by early environmental exposure.

Disease in Children and Environmental Exposures - An Update

More than two million American children have elevated blood lead levels. These children are at risk of chronic neuropsychologic impairment due to lead intoxication. The incidence of childhood asthma is sharply increasing. Increasing levels of air pollution along with exposure to second-hand cigarette smoke appear to be key causal factors. Asthma has become the leading cause of hospital admission in urban children.

The incidence of childhood leukemia is increasing. Although the death rate from leukemia is down thanks to chemotherapy and other treatment, the incidence per 1,000 children of new cases is 25% higher than it was a generation ago. The causes of this increase are not known, but may include environmental factors.

Sperm counts appear to be decreasing among young adults, and rates of testicular cancer and hypospadias are substantially increasing. These trends may reflect childhood or in utero exposures to environmental chemicals that disrupt endocrine function.

Success in Controlling Environmental Hazards

The vulnerability of children to toxins in the environment has come in recent years to be increasingly appreciated. Research has documented the particular health hazards for children of numerous environmental exposures. The results of their research have successfully been translated into public policies protective of children's health. Without question, these actions have protected the health and saved the lives of thousands of children. These successes have included:

Removal of lead from gasoline in the United States with a resultant 75% decline in children's blood lead levels.

Cessation of manufacture of DDT.

Cessation of manufacture of polychlorinated biphenyls (PCBs).

Ending of nuclear testing.

Reduction of many toxic industrial emissions.

Phase out of asbestos from school construction.

Voluntary cessation of manufacture of the carcinogenic pesticide, Alar.

The essential ingredient in virtually all of the successes in controlling children's exposure to environmental toxins has been the formation of strong and

enduring partnerships between an informed public, effective non-governmental organizations (NGO's) and committed physicians and scientists. Time after time, partnerships among these groups have continued the critical change agent. These partnerships have been central in effecting legislation and regulation that has led to protection of children's health. These successes should serve as a guide to the future.

EFFECTS OF ENVIRONMENTAL CONTAMINATION ON CHILDREN IN THE SOUTHERN HEMISPHERE

Maria Angelina Flores, M.D. PAHO

The Region of the Americas is a land of contrasts where in most of the cities down the Rio Grande enormous disparities coexist. Only 26% of the population of Latin America and the Caribbean resides in rural areas. The cities house 355 million people. Nearly 40% of urban households are under the poverty line (CEPAL, 1995). Inadequate housing is the only solution available for 38% of the population.



SOURCE: UNEP Child Picking Ants

The demographic growth of the 35 cities with population between 1-5 million has not been accompanied by an urban development plan. This situation has led to inadequacies such as distribution of potable water, lack of sewage, inappropriate discharge of untreated effluents, deficient garbage disposal systems and poorly controlled industrial pollution.

In all the Region there is a genuine concern for the environmental hazards placed on the population. The concern is expressed in national legislation and in the development of a public works infrastructure. However, law enforcement and surveillance methods do not proceed at the needed speed.

Every year 11,856,000 babies are born to Latin American and Caribbean mothers who have been exposed to some extent to environmental hazards either at their work place or at home. Children are most heavily exposed to a wide variety of adverse life experiences, such as poverty, poor parental education, inadequate housing and industrial pollution.

Environmental health hazards include pollution of the air, water, food and soil by a wide variety of agents especially harmful to children. Small children have little to say about the decisions taken for them. Children from poor families have few options regarding their quality of water, food, air, as well as health and education.

The normal behavior patterns of children put them in direct contact with their immediate physical environment. Children are highly susceptible to pollutants, including microorganisms. The routes of access to the body are inhalation, ingestion and percutaneous absorption. Direct contact with skin or mucosal tissues of some toxins is also harmful.

Every year millions of children worldwide die of preventable causes. Seven out of ten child deaths are due to diarrhea, measles, malaria, pneumonia and malnutrition. Some of these conditions are caused by or receive indirect impact from a number of environmental hazards.

These problems have been addressed by different programs of WHO and PAHO. Both organizations in conjunction with UNICEF have devised an integrated management strategy of childhood illness aimed at the primary health care workers who have a profound knowledge of the living conditions and the families of the children they care for.

The integrated guidelines try to bring together in the simplest possible expression what needs to be done to treat children in order to reduce mortality or to avert significant disability. In addition to case management of the most prevalent local diseases the strategy places great importance in the development of preventive and communication skills. The opportunity for contact with the mother is used to assess the child as a whole and to provide health education.

DIETARY AND ENVIRONMENTAL INFLUENCES ON CHILDREN'S BEHAVIOR

Ronald L. Hoffman, M.D., Director, Hoffman Center, New York City

Children are, as never before, suffering an onslaught from prescribed medications and chemical additives delivered in our food and water.

Attention Deficit Disorder (ADD) and Attention Deficit Hyperactivity Disorder (ADHD) would seem to be an epidemic sweeping the United States. At the very least, they are labels being attached to an increasing number of children—upwards of a million in recent years—representing 3 to 5 per cent of school-aged children. More and more children are being

recommended for the standard medication, Ritalin (methylphenidate), a member of the amphetamine category of drugs. In some school districts, more than 7% of children are receiving this treatment.

The question is, are ADD and ADHD on the rise, is our awareness of them on the rise, or are we trying to deal with children's behavior problems in a pharmaceutical way?

What are some of the possible underlying causes for ADD and ADHD type behavior? The causes may be allergic or immunological or relate to diet, nutrient deficiencies or toxic elements in the environment.

The fact is, the drugs used to treat ADD/ADHD are powerful drugs, the side effects are not negligible, and they should not be lightly used. However, the widespread prescribing of these drugs indicates that we are involved in an unprecedented experiment with our children's health. We could be doing some good for some children. We really want to make sure that the risks are balanced by the benefits.

Allergic reactions may directly influence brain function in children and may have a profound effect on their behavior and mental state. In addition, we eat several pounds of preservatives, sweeteners, artificial flavorings and colorings and other additives over the course of a year. We're all familiar with the effects of a food additive like caffeine, which puts the kick in high-sugared cola drinks. What we know much less about are the cumulative effects of the thousands of artificial additives in our foods, especially in some individual children who may be uniquely sensitized to some of these additives.

Recently zoologist Theo Colborn, World Wildlife senior scientist, and co-author of *Our Stolen Future*, has raised a new alarm about the impact of synthetic chemicals. Colborn maintains that low level contamination with these neurotoxic and endocrine-toxic compounds can interfere with thyroid hormone function in mothers-to-be, causing neurological impairment in the embryonic brain, and resulting in a susceptibility to developmental problems, learning disabilities, attention problems and hyperactivity. Given the potential complexity of the underlying causes of ADD and ADHD-type behavior, what should parents do?

A balanced approach to identify and treat problems of food and chemical intolerance, nutritional deficits, and the effects of environmental pollutants will be discussed in this presentation.

Fungus Suspected in Infants Death

Following two years of study, Center of Disease Control (CDC) suspect a toxigenic fungus, *Stachybotrus atra*, a black mold that grows in standing water on wood, paper and clothes of causing lung bleeding in infants and small children. The illness, affecting previously healthy children less than a year old is sometimes accompanied by crying, coughing, unexplained nosebleeds or vomiting blood, and if untreated leads to death.

The mold produces airborne toxins that weaken tiny blood vessels in infants, just as their lungs are growing at a very rapid pace. Although, the mold toxins alone can cause the capillaries to bleed into the lungs, other stress factors can precipitate the attack, according to Dr. Dorr Dearborn of Cleveland Ohio, who first noticed the unexplained symptoms in infants. The toxins appear to weaken the blood vessels in developing lungs making them very fragile and sensitive to infection or exposure to tobacco smoke.

A CDC team of scientists found that all babies treated for lung hemorrhages came from homes where either flooding or chronic leaks were present and had a significantly higher levels of *Stachybotrus* mold in them.

In recent years of study of SIDS (Sudden Infant Death Syndrome) public officials have recommended that infants sleep on their backs as a preventive measure. The current finding may be an additional factor causing SIDS.

SOURCE: Dr. Ruth A. Etzel, Chief of the Air Pollution and Respiratory Health, National Center for Environmental Health, Center for Disease Control, Atlanta, Georgia

RELATIONSHIPS OF LEAD EXPOSURE AND CHILDREN'S HEALTH

Joan Cook-Luckhardt, Ph. D.

Director of Lead Poisoning Preventative Education, UMDNJ, University of Medicine and Dentistry of New Jersey.

For decades researchers such as Dr. Clare Paterson of Cal Tech have argued that there may never be a base line to define human health because of absorp-

tion of lead, a heavy metal, which is ubiquitous on the earth's surface and use of which has increased historically.

Studies of Egyptian mummies and prehistoric peoples of the Americas have shown that humans living now are exposed to lead about 500 to 1000 times more than their ancient forebears. This increase in lead exposure results from its extraction, use and mostly uncontained disposal.

Yet lead, an element, is an extremely useful metal, which humans have dug from the ground and used for ceramic glazes, printing type, roofing materials, plumbing fixtures, lead-acid batteries, pigments, cosmetics, medicines, radiation shields, as an ingredient in TV tubes, and light bulbs. It is a dangerous irony that so useful a metal also poisons us, causing a variety of health effects including behavioral problems, neurological damage and kidney impairment. In addition to the health consequences of lead exposure, this presentation examines the successful actions taken by the world community to alleviate this problem.

WOMEN'S HEALTH, THE ENVIRONMENT AND THE HEALTH OF CHILDREN

Vivian W. Pinn, M.D.

Associate Director for Research on Women's Health, Director, Office of Research on Women's Health, National Institute of Health

Attention to women's health has rapidly expanded over the past ten years in the United States. With this has come

the impetus to better define and understand gender and sex differences in health, as well as racial economic, geographic, environmental, genetic, cultural and other factors which influence the health and health outcomes of diverse populations of American women and their children.

In September 1990, the Office of Research on Women's Health (ORWH) was established at the National Institutes of Health (NIH) to serve as a focal point for women's health research and to develop a scientific research agenda. The ORWH has expanded the traditional definition of women's health to foster research on the totality of biological and environmental factors that influence health across the life span of females, from the prenatal period and birth, through adolescence and the adult years, to the menopausal and advanced years of life. As the major contributors to health status around the globe include genetic inheritance, human behavior, and the environment, the ORWH is supporting research to elucidate the effects of environmental factors in determining women's health status. Since the health of women has a profound impact on the health of their children, efforts to improve women's health through research have a direct correlation to ameliorating the health status of fetuses and children. Examples of women's and children's health problems likely to have an environmental association include spontaneous abortion, birth defects, infant mortality, cancer, asthma, Parkinson's disease, and infertility.

The public health importance of devel-

opmental abnormalities resulting in death in utero or in birth defects exacts a heavy toll on public health resources both in developed nations and in countries of the developing world. Research into the role of environmental factors in causing such abnormalities is of great concern to the NIH and the rest of the biomedical community. Since children can be exposed to toxins even before they are born, in utero, the best way to ensure the safety of inborn and young children is by ensuring the health of their parents, particularly their mothers.

At the NIH, the National Institute of Environmental Health Sciences (NIEHS) has the primary responsibility for reducing the burden of environmentally associated diseases and dysfunctions by defining how environmental exposures affect human health, how individuals differ in their susceptibility to these effects, and how these susceptibilities change over time. The ORWH collaborates with the NIEHS and other NIH institutes in supporting a number of studies on the impact of environmental factors on the health of women and children. Among the areas addressed is endocrine disrupting chemicals and women's health outcomes. Under this initiative, a broad spectrum of research issues related to the role of endocrine disrupting agents in the etiology and progression of several diseases and conditions that affect women and children are supported. The NIH is working with other components of the US government and international agencies to ensure that every child is born into an environment that supports and sustains good health.



In armed conflicts throughout the world, a rapidly growing number of children not only become casualties but take up arms, according to the Swedish Save the Children Fund. Based on case studies from 26 countries, the report shows that a quarter of a million children are often used as executioners, assassins, spies, and informers.

Children are pressed into service by both governments and opposition groups as it is easier to manipulate them. Many are recruited forcibly, kidnapped, or coerced by impoverished parents in order to get food and shelter or to guarantee their own protection. Majority of the children are from impoverished backgrounds or with disrupted family backgrounds. While the majority of the children are boys, girls are also recruited and many may be forced into sexual servitude.

SOURCE: United Nations Department of Public Information

EMOTIONAL ENVIRONMENT AND ITS IMPACT ON CHILD DEVELOPMENT

Dr. Mara Sidoli, World Association for Infant Mental Health

This paper looks at damaging emotional environment and its effect on young children. Emotional waste consists of all the unprocessed distressing emotions, frustrated feelings, anxiety and stress, that human beings pour out and dispose of in their living environment.

The well known Roman saying "Mens sana in corpore sano" - a healthy mind in a healthy body applies today as it did in the past. However, these days, the situation is global and extremely complex. New attention needs to be focused on the environment both for the health of the body and the mind of a growing child.

In many developing countries the insanity of the local leaders is driving entire populations to flee. In Africa, Central America, the Middle East and Eastern Europe, wars, riots, and revolutions create conditions of unbearable suffering, abuse, and the killing of innocent children, who are, as they have always been, the real victims of the adults' mental degradation. It is well documented that bloodshed and violence during wartime are a form of collective insanity, affecting children in ways similar to parental insanity which can damage a children's emotional life or physically kill them.

In a recent conference on "Violence and Children" held by the organization for Infant Mental health (WAIHM) images and data were presented to show the terrible living conditions of infants who were found in Rumanian orphanages when the Communist regime broke down. Stress and violence suffered by millions of children in India, together with data illustrating the prevalence of child labor were also illustrated. The old cultural patterns which enslaves women of India clearly indicates the negative consequences on the mother-child relationship and its results.

Cases of child abuse and domestic violence were reported by speakers from the US and Belgium with emphasis on cases of child sexual abuses and pedophilia. The condition of post-traumatic stress disorder was illustrated using images of children damaged by early sexual violence and moral degradation. Today, we have enough knowledge to understand the psychological degradation and the development of violence in a child, just as we can understand that adults become perpetrators of violence

to children because of deprivation and violence suffered in their own childhood. The experience of violence and deprivation leads to the development of intense outward aggression.

Globally, poverty and abuse play a considerable role and weigh negatively on children's health and development. This phenomena of degradation is twofold. On the one hand, the dramatic increase in population and the advent of industrialization and urbanization have contributed to modern civilization's loss of contact with the earth and the natural rhythms of life and ultimately one's spirituality. On the other, although the physical aspect of degradation is concretely visible, the psychological one remains invisible and, therefore, is often ignored. Both aspects of degradation have deleterious effects on children's health.

Having realized how much violence is perpetrated on children all over the world, our next step should be to think of preventive measures. Professor Yvon Gauthier, president of World Infant Mental Health Association writes, "more conferences and information must be provided to the public on the topic of prevention. Such conferences are essential to regroup and support all professionals who are already working with infants and young families. They are also essential to convey the priority of early intervention to public authorities, so that more resources are engaged in community work to prevent violence and create a better atmosphere to children to grow into." (The Signal, March 1997)



SOURCE: UNEP Holding on to Life

OUR CHILDREN: THEIR EARTH, THEIR HEALTH

Joanne Fox-Przeworski, Ph.D Director
UNEP-RONA, New York City

UNEP works the field of human health and well-being by providing leadership and encouraging partnership for a healthier environment and to improve the quality of life without compromising future generations. Current initiatives to

address child health concerns are as follows:

UNEP-UNICEF Memorandum of Understanding regarding children's health will concentrate on UNEP's role in ensuring the effective implementation. This will include a series of information publications on environmental pollutant and their impact on child health. The first paper will be on Childhood Lead Poisoning: Information for Advocacy and Action. UNEP is also collaborating on the problems of Africa's Poor Urban Child workshops.

UNEP is also collaborating with other centers and external partners, such as Mount Sinai School of Medicine and Harvard Medical School with special emphasis on child health and development.

OVERCOMING MEDIA MYTHS AND MISUNDERSTANDING TO MAKE THE WORLD HEALTHIER FOR FUTURE GENERATIONS

Scott C. Ratzan, M.D., M.P.A.

Director, Emerson-Tufts Program in Health Communication, Boston, Mass.

The challenges we all face as global citizens are paramount for future generations. Our children deserve the best from our leaders to overcome myths and misunderstandings advanced through the media. Of course, any society ought to promulgate the future by protecting our most precious resource - our environment, and our most precious treasure, our children.

While we, as adults, might be willing to accept certain risks to our environment, we hope our children can live without such threats. Children are distinct. They are not small adults. Children have unique biological developments. There are different organs/glands (e.g. thymus), different physiological and metabolic pathways (e.g. bone growth) and different developmental changes. (E.g. puberty).

We know that children are especially vulnerable to toxic exposures because of their rapid development and distinct physiological processes. Hence, diseases in children, even when they are due to similar agents, could affect their organ systems differently.

Today, the true challenge is to create an environment - a media milieu - that promotes rather than erodes our health. To meet this need, we must work to develop a synergistic relationship of individuals and organizations working together. We can address some of these vulnerabilities with instantaneous communication technology. If we begin to employ communication strategically,

with ingenuity and human will, we can advance the health of future generations.

The origins of health and illness are too complex to leave individuals solely responsible for their own health. We need a concerted effort among global citizens - including non-governmental organizations, non-profit organizations, government, industry, and academia. Together we can rise to the task and serve as an ethical compass in helping the public digest pertinent health information, with the use of negotiation, advocacy, and social marketing strategies advanced through the modern media megalopolis.

Today, in a world where perception has become de facto reality, public understanding of the direct environmental links to death and disease are minimal. One of our goals will be to advance the modern-day mantra of scientific progress beyond a soundbite, short story and quick "conclusion" in the public's mind. Systematically approaching health and environmental issues at the local, state, national and global levels to advance accurate understanding of health information and appropriate behavior change could be a hallmark of the next century.

There are some questions we must address: Will the world respond with urgency to the human health risks predicted from the global climate change? Will we protect future generations with a society of scientifically literate citizens? Finally, will we use new technologies to deliver health to all global citizens? The global challenge we face today so that the next millennium will produce true wealth - optimal health.

ENVIRONMENTAL DEGRADATION AND CHILDREN'S LEARNING

Dr. Wadi D. Haddad, Special Advisor to the Director - General of UNESCO

Children who are sick, cold, malnourished, scared...don't learn well. Children whose parents and caregivers are sick, cold, malnourished, scared...may not have anyone to help them learn. Communities made up of such children and such adults are unlikely to be good stewards of their environment, able to organize and change behaviors to improve their environment, their personal well-being and their actions toward others.

Constructing a mental picture of such communities helps put some perspective on what we are talking about. Imagine what the environment is like as experienced by the child: First, the degraded environment is a poor environment,

lacking in opportunity and excitement for a child. It is often monotonous and boring - not the most conducive environment for learning. Second, poor health, resulting both from the environmental conditions and from malnutrition, limits the ability of children to enroll and participate effectively in schools and stunts the development of learning capacities.

Poor health, nutrition deficits and lack of a stimulating environment begin to limit the development of neurologic and cognitive capacities from the earliest years. The full effects of such stunting, delayed development and education failures accumulate over a lifetime and aggregate in the community, further degrading the ability of the community to educate and nurture each succeeding generation. In important ways the degraded environment appears to reinforce itself, limiting the human potential for active learning and compounding the task of developing and sustaining active, engaged and environmentally aware communities.

The degraded environment is closely associated with poverty and poor health. Economic and environmental poverty reduces enrollment, limits essential quality inputs, increases dropout and reduces and incentive to continue education beyond the essential minimum. Household poverty and poor health are among the main factors contributing to low enrollment and early dropout, particularly for girls, children in sparsely populated rural areas, and children in peri-urban settlements.

Health factors associated with poor nutrition, inadequate water and sanitation, crowding and environmental pollution are closely associated with a variety of effects on learning capacities, beginning with effects on the infant brain and early cognition and continuing with nutrition-related stunting and delayed development, vision and hearing loss, disfiguring and debilitating diseases.

Children who are malnourished or chronically ill are both physically and intellectually disadvantaged.

Girls and women are often among the most nutritionally disadvantaged and bear much of the burden of coping with inadequate water, sanitation and household energy. Thus, both the poverty effects and the health effects on learning opportunities are most severe for girls. Further, women do much of the work in the degraded environments and often bear much of the burden of the changes in environmental policies and practices. In 1992. The World Development Report concluded that "improving education for girls may be the most important long-

term environmental policy in the developing world".

The health and learning capacity and psycho-social wellness of children is among the most valued, and valid, objectives of any society, any household, any people. It should also be among the highest priority objectives of any organized effort to improve the human condition. It is the ability of people to see into the future and be confident that the actions they take today will pay dividends, if not directly for them, then for their children, that cause people to use the environment prudently and carefully. It may be true that it takes a village to raise a child, but it takes a child to raise a village.

In his paper, to the conference audience, Mr. Nitin Desai, Under-Secretary-General of the Department for Policy Coordination and Sustainable Development of the United Nations, recognized that poverty solutions are essential to ensure sustained improvements in environmental, health, and development programs. He noted that coordinating these programs is vital to the success of each. Incorporating environmental and developmental considerations into policy decisions is difficult, however, because in many governments the agencies addressing these issues are 'compartmentalized' and lack the resources and training needed to work together. On a positive note, he pointed out that civil society, often in the form of Non-Governmental Organizations, increasingly plays a role in filling these gaps.

Poverty alleviation programs provide one opportunity for the separate entities of government as well as United Nations intergovernmental agencies to coordinate their efforts especially on behalf of children's health. However, WIT looks at securing human health as the central objective. Poverty alleviation becomes the main road to that end with sustainable development policy including population programs lighting the way. With currently available knowledge, governments and citizens are able to understand the links between poverty and pandemic, and between healthy populations and economic growth. The will to shape policy based on knowledge of environmental impacts to human health intensifies steadily and globally. We at World Information Transfer hope you will join us in promoting health and environmental literacy.

NOTE: FULL TEXTS ARE AVAILABLE UPON REQUEST

CHERNOBYL UPDATE

"Health Impact of Chernobyl"

The following is an abstract of the presentation by Zenon Matkiwsky, M.D., President, International Children of Chernobyl Foundation, and Chairman, Dept. of Surgery, Union Hospital during the Sixth International Conference on *Health and Environment: Global Partners for Global Solutions* on April 18, 1997 at the United Nations.

On April, 26, 1986, at 1:23am, reactor number 4 at the Chernobyl Atomic Energy Station exploded. Subsequent investigations revealed that tests that were being conducted on the operating and backup systems were mismanaged. The plant was immediately shut down. Nonetheless, a large amount of radioactive steam was released into the atmosphere during the explosion. The highest amount of radioactive fallout was registered in the vicinity immediately surrounding Chernobyl. The atomic energy station and the nearby town of Prypiat are located in northern Ukraine, 90 kilometers north of Kyiv (Kiev), the capital of Ukraine, a city with a population of 2.8 million. At the time, the prevailing winds were directed North to Northwest, so that Belarus received the most widespread deposit of radioactive fallout. With subsequent shifts in the direction of the wind, as well as rainfall, northern regions of Ukraine, and the southern border of European Russia received radioactive fallout. Soviet authorities neither officially acknowledged the explosion, nor warned their citizens until May 2, 1986.

Excessive levels of radiation were recorded in northern Scandinavia, Wales, Ireland, Northern Italy, Greece, and coastal Alaska in the first weeks after the explosion. In Ukraine, over 4.6 million hectares were contaminated, some of the most productive agricultural land in the world. The total amount of radiation released as a result of the explosion at Chernobyl was originally reported as 50 million curies by Soviet authorities. During the past decade, subsequent research in Europe and North America and new calculations have resulted in a



SOURCE: KFEM News, August 1996

revised estimate of up to 260 million curies. (Source: MIT research study completed by Dr. Alexander Sich, released January 1994; research supervised by former Nuclear Regulatory Commissioner, Dr. Norman Rasmussen). The amount of radiation released at Three Mile Island in 1979 is estimated at 15 curies.

To date, approximately 134,000 residents have been permanently evacuated from contaminated regions immediately surrounding the power station; 116,000 of these were evacuated shortly after the explosion. 600,000 soldiers, firemen, and clean-up workers (men and women) were sent to the disaster site during the radiation emergency in the months after the explosion. Liquidators (clean-up workers) live in Belarus, Russia, Kazakhstan, and more than 350,000 liquidators live in Ukraine (Source: International Union Chernobyl). During the past decade, approximately 40,000 clean up workers have died, mostly men in their '30s and '40s. The total number of evacuees and cleanup workers (those exposed to the most intense radiation)

was close to three-quarters of a million people. The US death toll in Vietnam after 12 years of involvement was approximately 50,000. (Source: International Union Chernobyl). Shortly after the explosion, thousands of children and adults in Ukraine and Belarus were stricken with acute radiation sickness. Symptoms included vomiting, hair loss, severe rashes. This contradicts the original official public estimates of 100 people (Source: declassified Soviet Politburo Protocols published in *Izvestiya*, May 1992).

A permanent 30 kilometer "dead zone" was established around the power station where human habitation is forbidden. 1.2 million people continue to live on lands contaminated by "low-level" radiation, outside the 30 kilometer zone, with approximately 1,800 villages affected. Gradual seepage of radiation into the water table, especially the Dnipre River and its tributaries, threatens the water supply for millions of people in coming decades.

The World Health Organization reported that thyroid cancer among children living near Chernobyl rose to levels 80 times higher than normal; (Source: *Wall Street Journal*, September 3, 1992, and *Nature*, September, 1992). Experts from the University of Hiroshima who analyzed data on newborns and 30,000 stillborn fetuses in Belarus concluded that birth defects have nearly doubled since 1986 (UPI wire report July 14, 1994).

More than 10,000 Ukrainian children have been sent to Cuba for treatment of leukemia and other illnesses (*New York Times*, October 6, 1995). Overall, oncological illnesses among children in Ukraine have tripled since 1986 (Ministry of Health of Ukraine report, Winter 1995). The UN Office on Population reported that in 1994, the only two nations in Europe with negative population growth were Ukraine and Belarus. The report attributed this decline in part to increased infant mortality and adverse health conditions stemming from the Chernobyl disaster. Infant mortality in

Ukraine stands at twice the European average (14 per 1,000 live births). Among males life expectancy has dropped precipitously since 1986. The Chernobyl accident is suspected as a reason. (Source: New York Times, September 1, 1995). "Chernobyl has fueled a massive infertility crisis in Ukraine" according to the Boston Globe of January 26, 1996. Fifty percent of all men between the ages of 13 and 29 have fertility problems - the highest rate of infertility in the world.

According to radiation health experts working for the National Academy of Sciences most cancers that result from radiation exposure do not develop until 10-20 years after exposure. The highest incidence of cancer is expected to occur over the next 5-10 years and therefore no accurate assessment of Chernobyl's overall impact can be made until this period has expired. (United States National Academy of Sciences, BEIR-5 Report).

"Our highest priority for investment is to see a smile on a child's face."

*Jim Wolfensohn,
President, World Bank*

	Share of Environment R&D % in Total Government R&D Appropriations, 1981-96					
	1981	1992	1993	1994	1995	1996
Australia	2.7	3.0	2.9	2.7
Austria	0.4	2.2	3.2	2.9	2.4	2.1
Belgium	2.8	1.7	1.5	1.5	1.5	2.5
Canada	1.2	2.4	2.6	2.7	2.5	..
Denmark	1.8	4.5	4.5	4.5	4.1	..
Finland	0.9	3.1	3.0	2.4	2.5	..
France	0.5	1.1	1.3	1.4	1.9	..
Germany	1.8	3.7	3.8	3.7	3.5	..
Greece	3.1	1.9	4.1	3.3	3.2	..
Iceland	..	1.7	3.5	3.8	3.9	4.0
Ireland	0.4	0.6	0.7	1.3	1.3	..
Italy	1.8	2.2	2.4	2.4	2.4	..
Japan	..	0.5	0.5	0.5	0.6	0.6
Mexico	..	0.4	1.7	1.7
Netherlands	..	3.5	4.6	4.4	3.7	3.5
New Zealand	..	2.6	2.7
Norway	3.6	3.3	3.0	2.6	2.6	..
Portugal	..	2.9	2.5	1.7
Spain	0.7	1.9	2.3	2.4	2.6	2.7
Sweden	1.8	3.6	3.4	3.8	2.3	..
United Kingdom	1.2	1.4	2.0	2.3	2.1	..
United States	0.8	0.7	0.7	0.8	0.8	0.8

Source: OECD

..not available

FOOD FOR THOUGHT: *Sustainable Development: Between Political Willingness and Ability to Sustain*

It has been five years since the United Nations Conference on Environment and Development was held in Rio in 1992. The world rejoiced the launching of Agenda 21 and embraced the three treaty conventions: biodiversity, climate change and desertification. The Commission on Sustainable Development (CSD) was established to follow-up the implementation of the outcome of Rio with annual meetings to review the progress.

We have completed in April the fifth session of the CSD and a document was produced for adoption at the General Assembly in June. The global readiness and willingness have been immensely observed throughout the session and especially during the high-level segment where ministers from various parts of the world provided the meeting with high political profile. The political will has always been there. It has been represented through the participation of the heads of the states in Rio in 1992. It has been repeated in four major international conferences since Rio, in Copenhagen - the United Nations Conference on Social Development, in Beijing - the Women's Conference, in Cairo—the Population and Development Conference and in Istanbul - the Habitat Conference. All of these conferences had one major theme in common, "sustainable development".

The concept of sustainable development was the outcome of the report of the world commission on the environment in 1987, and since then, it has become the center of attraction of debates, fora, and conferences with its echo spreading in both the developed and the developing world. This concept has been able to alleviate some of the pressure and to bridge the rift between the North and the South on the controversy of environmental protection versus economic growth that lingered throughout the seventies, especially after the Stockholm Conference in 1972 and through the eighties.

Economic growth pollutes, but we need economic growth to fight pollution, and experience has shown us, over the years, that the deterioration of the envi-

ronment has a negative effect on our economies. Socio-economic development and environmental protection are closely inter-linked with a defined synergy, and governments through policy have to treat them together.

In 1994, the agenda for development launched by the United Nations Secretary-General, His Excellency Dr. Boutros Boutros-Ghali, came as an attempt to enhance international efforts to strive toward the achievement of a sustainable future, and it came to represent a strong political will through introducing its four dimensions as a criteria for global cooperation and to facilitate the road towards globalization. Instead it restored the controversy on "sustainable development" versus "sustained economic growth".

No matter what confusion we have over this concept, it is still concerned with maintaining three major elements: environmental integrity, human integrity, and economic efficiency. We all possess the readiness and the political will at the highest levels possible to strive for sustainable development, yet our ability to perform is paralyzed by the following factors:

1. Population Growth: no matter what ethnic, religious and cultural differences we all have, a serious attention must be given to this continuous problem that still creates a threat to our own survival. Projection studies aim to the figure of eleven billion people, that will inhabit our globe by the 2050. Over 81 million people are born every year, hence, adding more to the global poverty, which is estimated now at 1.2 billion.

2. Financial Resources, and the Debt Crisis: the report launched by Mr. James Michael, the Chairman of the Committee for Official Development Assistance of the Organization for Economic co-operation and Development (OECD), during the press conference held in Paris on June 17, 1997, gave a gloomy picture. There has been a substantial decline in the financial flows to the developing countries from all members of the OECD. All estimates to achieve sustainable development by the year 2000 point to

Tilonia: India's First Global Village

Tilonia, one of the 600,000 small villages of India, is in the middle of the Rajasthan desert, 400 miles south west of Delhi. It is here that the Barefoot College, which believes in identifying and using the skills, knowledge and practical experience available among ordinary people is based. The College has a 65,000 sq.ft. built campus run entirely on solar energy. Constructed by a villager who cannot read or write and maintained by residents who have little formal education, all the roofs are connected to a 400,000 litre underground tank to collect rain water, 15kws of solar panels (7 kws donated by Dominique Lapierre from the proceeds of his book *City of Joy*) run 20 computers, a solar pump distributing 25,000 litres of water, 500 domestic tube lights for residences, library, dining hall, meeting rooms, audio-visual section, medical centre, electronic workshop, an electronic mail system and a 80 line rural telephone exchange. The village will be fully self sufficient in water and power for the next 25 years.

Everyone in the village, understands and accepts that information is important. But information alone is NOT power. Information that leads to knowledge and action is power. In Tilonia, we think an effective way of recycling waste paper (that comes in the form of glossy reports and studies to the library from unsolicited sources and totally useless for the rural poor who cannot read or write English) is to mash them and convert them into paper mache puppets. Through hundreds of puppet shows in villages every night concentrating on sensitive social and political themes thousands have been reached. In many cases the message has led to knowledge and action in the form of strikes, agitation and protests against injustice, exploitation discrimination and abuse.

Our data input work on computers is being done by semi-literate rural women, 20,000 hours of computer work have been done so far, and 40 women are repairing India Mark II hand pumps. More than 400 rural women produce high quality handicrafts for the domestic and export market. The annual turn over is about 100,000 pounds a year with most of the earnings paid by bank cheque.

Another example of participation and partnership at the village level is the professional collaboration for the last 5 years between the Barefoot College and Tata BP Solar in solar electrifying remote villages and houses in Ladakh. High up in the Himalayas where temperatures reach -50C in winter, 2000 houses have been electrified using SPVs and the growing demand has completely baffled the government. Unemployed and unemployable rural youth from these remote villages have been trained to fabricate, install, repair and maintain the solar units. The master instructor and barefoot solar engineer who has solar electrified over 1,000 houses is illiterate.

Over the last 25 years we have learned how grossly we have underestimated the infinite capacity of people to identify and solve their own problems, with their own skills and dependence on each other. The Barefoot College believes in giving a greater sense of importance, involvement and equality to all people. We believe the poor remain poor because they are not receiving enough information that will allow them to grow, and allow them to make choices which is reinforced by governmental and political bureaucracies. The irony is that the very people who are publicly committed to improving the quality of lives of the poor, privately conspire to keep them poor.

Source: Bunker Roy, Director, Barefoot College, Tilonia, Rajasthan, India

MORE GOOD NEWS

■ United Nations Environment Programme (UNEP) has produced a CD-Rom celebrating 25 years of UNEP's accomplishments including price winning environmental photograph two of which are on page 2, 5 and page 14 of this issue. The compilation includes over 700 images with narration.

SOURCE: UNEP: e-mail: uneproma@un.org; tel: 212-963-8210; fax: 212-963-7341.

■ At 5.8 million people, human population stands at an all time high. However, the rate of population growth has been steadily declining. From a high of 87 million births each year between 1985 to 1990 to an annual increase of 80 million in 1996. The lower birth rate is due in part to faster than projected fertility declines in India, Bangladesh, and Brazil. Slower population growth is also the result of higher mortality rates in several African countries due to HIV/AIDS.

SOURCE: Population Communications International, International Dateline, July/August 1997

■ Wind energy was the fastest growing energy industry in 1996. By contrast, nuclear energy was the slowest growing energy industry in the same year with a growth rate of 1%.

SOURCE: Population Communications International, International Dateline, July/August 1997

■ Throughout Sub-Saharan Africa, Internet use is increasing for the benefit of the people. Many net users tend to be health professionals working for NGO's (non-governmental organizations). In South America the regions most wired country, there are 34 PC's per 1000 people (U.S. has 300 per 1000), and in Madagascar, a very poor country by comparison there are about 1000 users with an additional 1500 expected within a year due to the end of the national phone monopoly. Overcoming the biggest hurdle to working Africa and other nations is getting the governments to give up their telephone monopolies according to John Mach of the U.S. State Department.

SOURCE: USAID Leland Initiative, Washington D.C.

the figure of around 600 billion dollars-200 billion have been pledged by the developed world, and the rest is the responsibility of the developing countries. While the total debt that the developing countries owe far exceeds these figures, especially in Africa, where restructuring adjustments remain haunting, the focus is concentrated towards servicing various types of debt.

A whole millennium is ending and one third of the world population remain living in poverty. In three years, we shall welcome another century, while economic stagnation remains quite chronic in many parts of the world. Sustainable development cannot be achieved if we do not shift from willingness to action-oriented plans. We have been able, since the Rio Summit, to build the political willingness, but have failed to construct the ability to perform.

SOURCE: Dr. Faris Adib Ammarin, Adviser - Economic and Environmental Affairs, Mission of Jordan to the United Nations



GOOD NEWS

■ Yale Medical School has established an Internet colloquium series for scientific research in global knowledge sharing. Currently, Yale is providing information regarding the emerging infectious diseases, a problem of growing international importance. Transcript and background papers are also provided to assist students and those whose native language is not English. The required software (i.e., Real Audio and QuickTime) can be downloaded from the Web site, and ftp options are available for users without full Internet capacity. Researchers at Yale are available to discuss research issues and research projects that can accelerate knowledge and strengthen capability to

address these problems.

Yale's design is intended to get beyond the "do your own thing and post it" approach to Web sites and build an interactive capability that serves the agenda of an international research community.

SOURCE: Dr. Lloyd S. Etheredge, Director, International Scientific Networks Project, Policy Science Center, Inc. New Haven CT 06520
tel: 301-365-5241, fax: 301-657-4214,
e-mail: lloyd.etheredge@yale.edu

■ The Government of Norway made a contribution of 24 million US dollars to UNICEF for its "Education for All" programme in Africa. It will be used to develop educational programmes that not only encourage girls to stay in school, but will help ensure their academic success once there. Studies are continually emphasizing that education is the key to empowering girls and improving the situation of women worldwide. According to UNICEF, investment in girls' education is crucial to further economic growth and social development. Girls who have enjoyed a basic education have fewer, healthier and better educated children. As adults they are more productive and receive better pay for their work.

SOURCE: UNICEF, Division of Information, 3 UN Plaza, N.Y. 10017, tel: 212-326-7259, fax: 212-326-7768.

■ The Global Environmental Institute (GEI) is a new graduate-level educational institute dedicated to an interdisciplinary and international approach to teaching environmental management. GEI is currently organizing for a first summer session (GEI'98) in June, 1998 at the University of Western Ontario, Canada. The program's primary goal is to break down barriers that exist between disciplines, professions, and nations. GEI also strives to build a social, professional, and information network to further its educational and leadership goals. To this end, GEI will facilitate, encourage, and promote collaborative projects, the exchange of information, and consultancy activity among the members of its community through a service called GEINET. GEI will also conduct professional courses and seminars throughout the year to interested groups and individuals. This service will be a joint undertaking with the Consulting Office for Global Environment (COGE). In this capacity, they facilitate contact between top experts in environmental fields and

the organizations that require their services.

SOURCE: The Gallon Environment Letter, June 23, 1997

■ Edunet, a computer network to facilitate education among disadvantaged children, has been established in Pakistan. It is the first programme of its kind in South Asia.

SOURCE: Don de Silva, Communication and Sustainable Development Group (CSDG)

■ Freeplay, a radio that gives listeners about 40 minutes of AM, FM or short-wave listening after 30 seconds of hand cranking, is about the size of a lunchbox and costs \$80.00. It was invented by Trevor Baylis for use in regions without power lines or convenience stores stocked with batteries. Baylis recognized the need for such a device after seeing a TV documentary detailing how difficult it is to educate Africans about AIDS because few had radios as electricity is scarce and batteries are expensive.

The radio is made by a small South African-based company, BayGen Power Corp. It is available at Harrod's in London and Nature Co. shops in U.S.

SOURCE: Prudential Securities News, August 1997

■ Medical Missionaries of Mary in Tanzania are using solar powered batteries to power their laptops to receive medical information and for communication from the field.

SOURCE: NGO Committee on Sustainable Development, N.Y.C.



SOURCE: The OECD Observer, June 1997



DID YOU KNOW?

■ The United States Environmental Protection Agency, EPA, found in mid-May 1986 an enormous increase in radioactivity in New York milk deposited by the Chernobyl radiation cloud. With the support of the New York Physicians for Social Responsibility and the United Methodist Church, the non-profit Radiation and Public Health Project (RPHP) will be conducting a study to investigate the elevated risk of cancer to New Yorkers born soon after the Chernobyl accident. By collecting baby teeth of New York city children born after the Chernobyl accident, RPHP will be able to demonstrate whether a large increase in the strontium-90 can be found in the baby teeth of New York children born after April 1986. A report by the German branch of the International Physicians for the Prevention of Nuclear War has analyzed the strontium-90 in 5000 German baby teeth since 1992 and found a ten-fold increase in the teeth of children born in 1987 over 1985 due to Chernobyl fallout in 1986. This past April, the British Medical Journal released a report by RPHP epidemiologist Joseph Mangano, demonstrating a significant leukemia increase in US children born in 1986-7.

SOURCE: Jay M. Gould, Director, Radiation and Public Health Project (RPHP), tel. 914 726-3380 or 212 496 6787.

■ In its report that fish in Japan's Minamata Bay are once again fit for human consumption, The New York Times (Aug. 3, 1997) briefly retold the story of one of Japan's worst environmental catastrophe's. The Chisso

Corporation, a chemical plant, dumped its waste contaminated with mercury compounds into Minamata Bay thus poisoning commercial fish and those who ate them. The chilling photographs of W. Eugene and Aileen Smith helped to bring this environmental health disaster to the world's attention. Some of those photographs showing deformities from in utero poisoning and the toxic effluent spilling from one of Chisso's pipes were reproduced.

SOURCE: *New York Times*, August 3, 1997

■ Canada imported 82.3% of the air pollution control technologies it needed in 1995. Of the \$1.059 billion spent on air pollution control technology in Canada, only \$145 million was provided by Canadian companies. The other \$914 million was imported.

SOURCE: *The Gallon Environment Letter*, July 5, 1997

■ Over one and a half billion people are between the ages of 10 and 24, representing almost 30 percent of the world's total population. By the year 2025, their numbers are projected to reach nearly 2 billion. In South Africa, alone, over 50% of the population will be under 21 years of age by the year 2000.

SOURCE: *The Youth Book*, Editor: David Barnard, PRODDER, Johannesburg, South Africa.

■ Anti-abortion dogma in the U.S. Congress have put a stranglehold on U.S. Funding for international family planning by slashing funding. Overall funding was not only cut by 35% in 1996, but

Congress also embargoes funds and ordered spending to be metered out. The funding restrictions have hamstrung family-planning programs, tying up personnel, increasing costs, and reducing the effectiveness of programs. Anti-abortion forces continue promoting legislations that would use international family planning funding as a leverage for their anti-abortion platform.

SOURCE: *World Watch*, May/June 1997

■ The Organization for Economic Cooperation and Development (OECD) has published a report showing that the more people have access to inexpensive phone services, the greater the economic growth in the country. Together with the impact of information technologies, and loosening of government monopolies, the world can change very rapidly.

SOURCE: *OECD Publications*, 2 rue Andre-Pascal, 75775 Paris, France. Internet: <http://www.oecd.org>



A transfer of government resources from nuclear energy to renewable energies has not stopped a decline in spending on renewables.

SOURCE: *The OECD Observer*, June 1997

■ Knowledge depends on the availability of accurate information. Following are statistics comparing information availability illustrating that information flows from the developed to the developing world because of differences in education, technology and democratic practices.

- The US has 5,300 database vendors (Dialog, etc.). The continents of Africa and South America have 8 and 54 total vendors, respectively.

- A letter from Namibia to Europe arrives in 3 days. From Namibia to Zambia (an adjoining country) in 3 months.

- Only 4% of students in Tanzania ever reach high school. In Zaire, grade school attendance has dropped 10% in the last decade.

- The University of Namibia (the only university in the country) graduated 1 computer science major in 1993, 3 in 1994.

- Africa has 12% of the world's population but publishes 2% of the world's books. The US publishes 30% of all scientific articles. Gambia publishes .01%

SOURCE: *Disconnected: Haves and Have Nots in the Information Age*, Bill Wresch, Rutgers University Press, 1996

Did you know that

If we could shrink the Earth's population to a village of precisely 100 people, with all existing human ratios remaining the same, it would look like this:

There would be 57 Asian, 21 Europeans, 14 from the Western Hemisphere (north and south) and 8 Africans.

51 would be female; 49 would be male

70 would be non-white; 30 white

70 would be non-Christian; 30 Christian

50% of the entire wealth would be in the hands of only 6 people and all 6 would be citizens of the United States

80 would live in substandard housing

70 would be unable to read

50 would suffer from malnutrition

1 would be near death, 1 would be near birth

1 <None> would have a college education

no one would own a computer

When one considers our world from such an incredibly compressed perspective, the need for both tolerance and understanding becomes glaringly apparent...

SOURCE: John Walker, Publisher, CSS Inter News, P.O. Box 57247 Jackson Stn. Hamilton, Ontario, Canada L8P 4x1.
e-mail: jwalker@tor.hookup.net

"Let teachers, artists, scientists and journalists come together to know each better and to overcome prejudices and misunderstandings that can lead to violence. Let them be joined by their colleagues throughout the (Middle East) region to explore a future of cooperation and mutual support."
Federico Mayor, Director-General, UNESCO

REPORT OF THE SPECIAL SESSION

Ambassador Razali Ismail (Malaysia) President of the 19th United Nations Special Session of the General Assembly (UNGASS) welcomed the representatives of civil society, who were participating for the first time in the GA. He also drew attention to the lack of progress to catalyze change. UN Secretary-General Kofi Annan identified several issues that required attention, including clean water, forests, fish stocks, atmosphere and desertification. In a final statement he noted that UNGASS had been successful in some areas, but others, particularly finance and technology transfer, would require more time and political will. The Plenary held two sessions each day during UNGASS, where approximately 197 statements on review and appraisal of the implementation of Agenda 21 were offered including 12 representatives of major groups, two of whom were non-governmental representatives. In his address to the General Assembly on June 26 US President Clinton recognized that the American record since Rio was insufficient. He pledged to help developing nations with one billion dollars of assistance, to increase the use of new technology including energy efficient cars and the use of sun and wind as alternative energy.

The Committee, chaired by Dr. Mostafa Tolba, chair of the recent Commission on Sustainable Development (CSD) convened to oversee negotiations on a draft Programme for Further Implementation of Agenda 21. The Committee adopted a Statement of Commitment which reiterated that the focus of UNGASS was to accelerate the implementation of Agenda 21 in a comprehensive manner. Participants agreed to ensure that the next comprehensive review of Agenda 21 in the year 2002 would demonstrate greater measurable progress in achieving sustainable development.

The paragraph on health that had been adopted prior to the Special Session states that an overriding goal for the future is to implement the "Health for All" strategy to enable all people to achieve a higher level of health and well-being, and thus improve their economic productivity and social potential. Actions such as provision of safe drinking water, and accelerated research and vaccine development, are suggested. Delegates agreed that it is important to accelerate the process of eliminating unsafe uses of lead, including the use of lead in

gasoline worldwide.

ANALYSIS

The "Earth Summit +5," as the Special Session is also called, made clear again that little progress has occurred over the past five years in moving toward sustainable development. Though speakers generally agreed that the concept of sustainable development now informs economic planning worldwide, the principles of Agenda 21 were not sufficiently applied to forestall the continuing deterioration of the global environment. Delegates to UNGASS recognized that overall trends are worsening, as noted in the UN Environment Programme's Global Environment Outlook report. Several speakers mentioned that, worldwide, foreign investment replaced overseas development assistance in amount and frequency. Based on economic, rather than developmental, objectives, such investment necessarily yields selective benefits.

The limited advances in implementing Agenda 21 include important accords on several international agreements. The Convention to Combat Desertification has entered into force. There are now agreements on land-based sources of marine pollution and straddling and highly migratory fish stocks. Negotiations on a prior informed consent mechanism for hazardous chemicals are underway, and negotiations on persistent organic pollutants convention will begin next year. Governments are finally discussing indicators for sustainable development, reproductive health care and production and consumption patterns - topics that were practically taboo five years ago.

A key area of progress since UNCED was in procedural arrangements for UNGASS. Through the work of the CSD and the other UN conferences held since 1992, NGOs have made great strides in achieving access to and influence on the proceedings and ultimately international policy. For the first time NGOs and other Major Groups joined Heads of State and government representatives to deliver speeches to a Special Session of the General Assembly and were also allowed into ministerial-level consultations.

United Nations General Assembly President Razali Ismail, felt that the Special Session was an "honest attempt to try and make an appraisal of the results, and of how far we have gone from Rio."

SOURCE: Earth Neg. Bulletin. Vol. 5 No. 88. June 1997 WIT Representatives



■ Antibiotic-resistant microbes - called "superbugs" are a growing threat to humankind as organisms become more resistant to currently available antibiotics. Health officials predict, that superbugs may be responsible for millions of deaths each year as indicated by the resistant streptococcus pneumonia, which is not invading Europe and the U.S. particularly since it is often fatal to children. As resistance develops and novel antibiotics will not be available until 2002 or later, physicians are often forced to turn to last resort antibiotics, which can cause debilitating side effects.

SOURCE: World Health Organization Report, 1997

Estimates of Casualties Produced by Biological Warfare

(release of 50 KG of agent by aircraft along a 2-km. line upwind of a population center of 1/2 million people)

Agent	Downwind Reach, km	No. Dead	No. Incapacitated
Rift Valley Fever	1	400	35,000
Tick-borne encephalitis	1	9,500	35,000
Typhus	5	19,000	85,000
Brucellosis	10	500	125,000
Q fever	20	150	125,000
Tularemia	20	30,000	125,000
Anthrax	20	95,000	125,000

As many as 17 countries are suspected of either including or developing biological agents in their offensive weapons programs.

SOURCE: JAMA, Biological Warfare, Vol. 278, No. 5, Aug. 6, 1997

THE NEWCASTLE DECLARATION
 Endorsed at the International Conference Pathways to Sustainability: Local Initiatives for Cities and Towns 1-5 June 1997, New Castle, Australia

Gathered at Newcastle, Australia on World Environment Day, 5 June 1997 we acknowledge that in the five years since the Rio Earth Summit much has been learned about implementing the concept of sustainable development. There is growing evidence, however, that the future of all life on Earth is still in peril. There is an urgent need to accelerate and assist action at all levels, particularly locally, if the global sustainable development objectives of Agenda 21 are to be realized.

We, as representatives of the global community and local government acknowledge:

- * That sustainability is a global necessity and that Local Agenda 21 is a fundamental framework for enhancing local and global sustainability.
- * That based on growing population trends, there is an urgent need for the developed world drastically to reduce our per capita impacts in the short term if we are to achieve global sustainability in the long term,
- * That actions need to be taken to mitigate the adverse effects on local communities of continued trends toward economic globalization and free trade.

We declare our commitment, as local governments and communities, to enhancing global sustainability, by developing processes at the local level based on:

- * Assisting our own and other communities to progress toward local sustainability by sharing and learning from each other.
- * Ensuring that all sectors, groups and citizens in our local communities, including adults, youth and children are given equal opportunity for active participation and partnership in the process of developing Local Agenda 21 action plans.
- * Simultaneously achieving economic, social, cultural and ecological goals by integrating them in the design and implementation of all local policies, programs and projects.
- * Recognizing the rights of indigenous peoples and the special contributions which they can make.
- * Acknowledging the importance of difference and diversity in formulating

and implementing Local Agenda 21 plans.

- * Adopting a strategic and long-term approach to setting priorities and targets in order to achieve community-determined visions and goals.
- * Establishing realistic short-term action plans with participatory mechanisms for monitoring, feedback, and accountability.
- * Celebrating the diversity within and between local communities and respecting and learning from minority voices and the aspirations of different cultural groups.

We call upon all local government around the Earth:

- * To embrace the goal of global sustainability by implementing Local Agenda 21 action plans by the Year 2000 which fulfill the goals of Agenda 21 and the Habitat Agenda.
- * To monitor and review on an annual basis and report on progress at the Rio + 10 review in 2002.

To assist us in this process we call upon:

- * The United Nations and national governments to recognize the progress made by local governments and their communities in enhancing the implementation of Agenda 21 and the Habitat Agenda.
- * National governments to provide a policy framework and the necessary resources to support national Local Agenda 21 programs.
- * National and international investment and development assistance programs to support Local Agenda 21 action plans and related measures.
- * All governments to increase their proportion of annual expenditure on demonstration projects which enhance sustainability.

We affirm the need for international and national local government organizations to:

- * Facilitate the exchange of examples of information on best practice in implementation of Local Agenda 21.
- * Recognize the importance of research, community education, capacity-building and monitoring in local action for sustainability.
- * Report on the progress of Local Agenda 21 on behalf of all local governments and communities.

SOURCE: Mike Mouritz
 Conference Program Coordinator
 Pathways to Sustainability, Newcastle City Council
 PO Box 489, NEWCASTLE NSW 2300, AUSTRALIA



SOURCE: UNEP *Darkness to Light*

FORTHCOMING MEETINGS ON SUSTAINABLE DEVELOPMENT*

■ Framework Convention On Climate Change (FCCC):

The next sessions bodies are scheduled to meet from 20-31 October 1997 in Bonn at a conference facility to be determined. The third Conference of the Parties (COP) is scheduled for 1-12 December 1997 in Kyoto, Japan. For all meetings related to the FCCC, contact the secretariat in Bonn, Germany; tel: +49-228-815-1000; fax: +49-228-815-1999; e-mail: secretariat@unfccc.de. <http://www.unfccc.de> and UNEP's Information Unit for Conventions at <http://www.unep.ch/iuc.html>.

■ Convention On Biological Diversity (CBD):

The third meeting of the Ad Hoc Group on Biosafety (BSWG-3) is scheduled for 13-17 October 1997 in Montreal. For more information contact the CBD Secretariat, World Trade Centre, 413 St. Jacques Street, Montreal, Quebec, Canada H2Y 1N9; tel: +1-514-288-2220; fax: +1-514-288-6588; <http://www.biodiv.org>.

■ Convention To Combat Desertification:

Conference of the Parties (COP-1) is currently scheduled for 29 September - 1 October 1997 in Rome. For more information, contact the CCD Secretariat, Geneva Executive Center, 11/13 Chemin des Anemones, CH-1219 Chatelaine, Geneva, Switzerland; tel: +41-22-979-9419; fax: +41-22-979-9030/31;

Voices

e-mail: secretariat@unccd.ch.
<http://www.unep.ch/incd.html>.

■ **Montreal Protocol:** The preparatory meeting for the Ninth Meeting of the Parties to the Montreal Protocol is scheduled from 9-12 September 1997 in Montreal, to be followed by the Ninth Meeting of the Parties from 15-17 September. For information contact the Secretariat for the Vienna Convention and the Montreal Protocol, P.O. Box 30552, Nairobi, Kenya;

tel: +254-2-62-1234/62-3851;
fax: +254-2-52-1930;
e-mail: ozoneinfo@unep.org.
<http://www.unep.org/unep/secretar/ozone/home.htm>.

■ **Eleventh World Forestry Congress:** The Congress, with the theme "Forestry for Sustainable Development: Towards the 21st Century," is scheduled for 13-22 October 1997 in Antalya, Turkey. For information contact: Mesut Y. Kamiloglu, Ministry of Forestry, Atatur Bulvari 153, Ankara, Turkey, tel: +90-312-4177724, fax: +90-312-4179160, e-mail: obdi-f@servis.net.tr or Luis Santiago Botero, FAO, Forestry Department; tel: +39 6/5225 5088, fax: +39 6/5225 5137, e-mail: luis.botero@fao.org. <http://www.fao.org/waicent/faoinfo/forestry/wforcong/>.

■ **Basel Convention:** The Fourth Session of the Conference of the Parties to the Basel Convention on Hazardous Wastes is expected to be held in Kuala Lumpur, Malaysia from 6 - 10 October 1997. For information contact I. Rummel-Bulska, Basel Secretariat; tel: +41-22-979-9213; fax: +41-22-797-3454, e-mail: sbc@unep.ch. <http://www.unep.ch/iuc.html>.

■ Un Convention On The Law Of The Sea:

The Eighth Meeting of States parties to the United Nations Convention on the Law of the Sea (UNCLOS) will be held from 18-22 May 1998. For information contact doalos@un.org <http://www.un.org/Depts/los>.

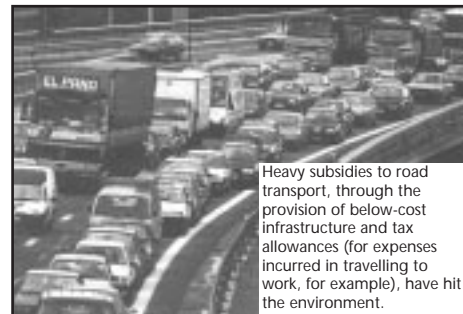
■ **Independent World Commission On The Oceans:** The Independent Commission on Oceans will hold its fifth

session in Cape Town, South Africa from 11-14 November 1997 and its sixth session in Lisbon, Portugal in July 1998, in conjunction with EXPO'98. "The Oceans: A Heritage for the Future." The Commission seeks to draw attention to the issues of ocean development and encourage the further development of the ocean regime evolving from UNCLOS. For information contact the Secretariat in Geneva; tel: +41-22-710-0711; fax: +41-22-710-0722; e-mail: secretariat@world-oceans.org.

■ The Food and Agriculture Organization of the United Nations (FAO) will organize on the 18th and 19th of October 1997, a world-wide fund-raising television event "TeleFood", to increase the ability to produce food in 82 food-deficit countries which lack sufficient resources to meet their food needs. During this programme, well-known performers and personalities in different countries will call on the generosity of people willing to contribute to the fight for encusing "food for All".

SOURCE: EARTH NEGOTIATIONS BULLETIN <enb@iisd.org> PUBLISHED BY THE INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT (IISD) <reception@iisdpost.iisd.ca>

■ The United Nations General Assembly Special Session (UNGASS) to Review the Implementation of Agenda 21 was held at United Nations Headquarters in New York from 23-27 July 1997, five years after the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro. Agenda 21 is the Programme of Action for Sustainable Development agreed at UNCED. 53 Heads of State and Government, along with ministers and other high-level officials, addressed the General Assembly during the week-long meeting, and produced a Statement of Commitment and a Programme for the Further Implementation of Agenda 21.



Heavy subsidies to road transport, through the provision of below-cost infrastructure and tax allowances (for expenses incurred in travelling to work, for example), have hit the environment.

SOURCE: The OECD Observer, June 1997

■ The International Women's Peace Petition Against War, which has been circulating worldwide via Internet, fax and mail will be formally presented to the United Nations on October 24th, 1997, the United Nations Day. A women's peace resolution has also been drafted for formal submission to the General Assembly. For more information contact: Peace Action International, tel: 212-949-8480 fax: 212-682-0886, e-mail: paintl@igc.apc.org

■ The Food and Agriculture Organization of the United Nations (FAO) has initiated its Special Programme for Food Security (SPFS) to increase food production in the 82 food-deficit countries which lack the sufficient resources to meet their food needs with imports from the world market. The SPFS is aimed at helping poor farmers and vulnerable groups, in particular women, to increase food production and thus facilitate their access to food, instead of relying on food aid. Based on environmental sustainability and people's participation and empowerment, the programme concentrates on small-scale irrigation and water control projects, intensification of plant production, diversification of activities through improved small-animal production and aquaculture.

In order to mobilize additional funds, required to expand the Programme FAO will organize, on October 18th and 19th, 1997, a world wide fund raising television event - TELEFOOD. During the programme, well-known performers and personalities in different countries will call on the generosity of people willing to contribute to fight for ensuring "food for all". For further information write to: FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy, Fax: 52253152.

World Information Transfer

A Non-Profit, Non-Governmental Organization in Consultative Status with the United Nations, Promoting Health and Environment Literacy.

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WIT is a non-profit, international, non-governmental organization, in consultative status with the United Nations, dedicated to forging understanding of the relationship between health and environment among opinion leaders and concerned citizens around the world. You can help us with your letters, your time, and/or your donations.

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World Information Transfer, Inc.
(ISSN #1080-3092)
444 Park Avenue South, Suite 1202
New York, NY 10016
Telephone: (212) 686-1996
Fax: (212) 686-2172
E-Mail: wit@igc.apc.org

Dr. Christine K. Durbak
Founder & Editor-in-Chief

Dr. Claudia Strauss
Managing Editor

Jackie Jacovino
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Contributing Editors

Carolyn T. Comitta
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Language Editors

Dr. Andrew Tooziak
Consultant

Alan Geoghegan
Video Production

Carolyn T. Comitta

WIT Regional Director - North America
18 West Chestnut Street
West Chester, PA 19380
Tel: (610) 696-3896 Fax: (610) 430-3804

Taras Bojchuk

Dr. Wilkoria Hawryluk

WIT Regional Directors - Eastern Europe
K. Levyckoho 11a, # 15
Lviv, Ukraine
Tel/Fax: (380) 322 76-40-39
E-Mail: taras@wit.lviv.ua

Christopher Geoghegan Leon Hauser

WIT Regional Directors - Western Europe
EPO Patentlaan 2
Rijswijk 2288EE Holland
Tel: (70) 340-2040 Fax: (70) 340-3016

Dr. Hamid Taravaty

WIT Regional Director - Middle Asia
No. 19, Pastour 16
Mashad, Iran
Tel: (98) 51 641-942. Fax: (98) 51 711-896

Farouk Mawlawi

WIT Regional Director - Middle East
P.O. Box 14/6136
Beirut, Lebanon
Tel: (961) 3-305854
E-Mail: smawlawi@lebinvest.com.lb

Gerry Lynch

WIT Regional Director - Oceania
3/55 William Street, Suite 33
Double Bay, NSW 2028, Australia
Tel: 61 (02) 328-6343. Fax: 61 (02) 482-7734

Christopher J. Moorehead, P. Eng.

Moorehead Associates Ltd.
1644 Bayview Ave., Suite 1202
Toronto, Ontario, Canada M4G 3C2
Tel: (416) 485-8232. Fax: 485-8049
E-Mail: moorehed@interlog.com

Electronic edition available on
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POINT OF VIEW

Since our beginning 10 years ago, World Information Transfer (WIT) has acted on Margaret Mead's statement that "a small group of thoughtful committed citizens can change the world." In the course of our first decade we have found many other groups of thoughtful committed citizens who share our goal of circulating information on the links between environmental degradation and human health. Our six annual Health and Environment conferences, held at the United Nations, have brought together serious and dedicated individuals representing the medical, academic, business, governmental and non-governmental communities for the purposes of exchanging environmental health information in order to enlighten development, environment and health policy at the international level.

An important result of each conference has been new partnerships that have grown around ideas presented during the one to two day discussions. Updated information about the health effects of Chernobyl and health impacts of radioactive emissions have been presented at each conference. WIT also works with other organizations who have joined our humanitarian aid effort to donate medical supplies & equipment for hospitals and orphanages in Ukraine, Belarus and other former Soviet nations affected by the Chernobyl nuclear disaster. More locally, public health education associations in the New York region disseminate information from WIT's Health and

Environment conference and offer certification credit for conference attendance. WIT works closely with the World Health Organization, United Nations Environment Program, UNICEF, and UNEG. In addition, WIT's Board of Directors reflects its growing partnerships with particular constituencies within civil society, particularly medical science and education.

"Only a life lived for others is a life worth while."

Albert Einstein

With the proliferation of computers world wide and the growth of internet access, WIT has formed partnerships in cyberspace, which might be termed virtual connections. Compared to the large television and newspaper conglomerates, the internet offers a great deal of information on the health consequences of environmental degradation. The list serves and linked web sites offer new opportunities for information dissemination especially for information which regularly gets little media attention. Of equal importance, the internet allows new opportunities for conference participation. WIT's <http://worldinfo.org> contains summaries of the World Ecology Reports, 1997 conference information, and general information about World Information Transfer.

1998 will mark WIT's eleventh year as an organization promoting environmental and health literacy.

WIT was conceived in the aftermath of this century's worst and ongoing nuclear tragedy-the explosion at the Chernobyl nuclear power plant on April 26, 1986-with deaths soaring above the numbers of wartime victims of nuclear bombs. The victims of Chernobyl are world wide and include untold numbers of people who breathed the air under Chernobyl's radioactive cloud or touched radioactive soil. Baby teeth of New York City children born in the months after Chernobyl are currently under study to see if they contain elevated levels of Strontium 90, which might indicate increased risk for cancer. Intentional and malevolent withholding of information that would have protected the lives of citizens particularly in Ukraine, Belarus, as well as in other nations visited by the Chernobyl cloud, motivated a small group of thoughtful committed citizens to try to change the world so that there would never be another man-made environmental disaster with such devastating consequences to human health.

"I personally have a lot of hope for the world. For all its suffering and gloomy potential, it is a wonderful creation that we have a responsibility to preserve for future generations. Fundamentalists believe otherwise, which I respect but find distressing."

*Dr. Charles B. Strozier, author of
APOCALYPSE: psychology of
Fundamentalism in America,
Beacon Press, Boston 1996*

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"Never doubt that a small group of thoughtful committed citizens can change the world. Indeed it's the only thing that ever has."

Margaret Mead
